APPARATUS AND SYSTEM FOR IMAGING RADIO FREQUENCY ELECTROMAGNETIC SIGNALS

Abstract

An apparatus and system for imaging radio frequency electromagnetic signals that is useful for imaging a target object in order to identify an unknown object or to determine the condition or configuration of a known object. One embodiment of an apparatus for imaging radio frequency electromagnetic signals comprises an optical source operable to output an unmodulated optical signal; an image sensor operable to receive the unmodulated optical signal and an incident radio frequency electromagnetic signal and to modulate the unmodulated optical signal with the received radio frequency electromagnetic signal so as to form a modulated optical signal; a lens operable to receive the modulated optical signal and to focus the modulated optical signal; and a photodetector operable to receive the focused modulated optical signal and output an electrical signal representing the focused modulated optical signal. The optical source may be a laser.